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ABSTRACT

Students' perceptions of actual and idealized qualities of practicing physicians were studied longitudinally at three points in students' medical education. Questionnaire data were collected to assess stability and change in students' images of qualities of "most" physicians and of "effective" physicians. Male and female students' images of practitioners were also compared. The analysis focused on three successive student cohorts of a small, combined bachelor's degree and medical school program. A response rate ranging from 90 to 98 percent was obtained for the three time periods: at the end of the first 2 years of study, after year 4, and after year 6. The data were assessed using profile analyses. The findings suggest that students' images of qualities of "most" and "effective" physicians are transformed over time. At all time periods, most students see physicians as caring, but this conception declines slightly over time. While students initially see doctors as quite status conscious, at the second data collection this perception of physicians' status consciousness declines, and then increases as students approach graduation. This same pattern is found for another perception: physicians' concern with social issues. However, at all time periods, most students do not see physicians as strongly concerned with social issues. (Author/SW)

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Medical Students' Images of 'Most Physicians' and 'Effective Physicians' Over Time

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ABSTRACT

In forging their professional identities medical students are attentive to attributes of typical and particularly esteemed or idealized physicians. Although substantial research has examined changes in students' own values as they progress through medical school, little work has examined systematically alterations in students perceptions of qualities of practicing physicians. This paper uses longitudinal questionnaire data collected at three points in students' medical education to assess stability and change in their images of qualities of "most" physicians and of "effective" physicians. It also compares images of practitioners held by women and men students. Implications for theory and research on professional socialization are explored.

Medical Students' Images of 'Most Physicians' and 'Effective Physicians' Over Time

Introduction

In developing professional identities medical students frequently take as reference points images they hold of practicing physicians. As Blau et al. (1979) have written, medical education differs from training programs for many other professions in that students have frequent contact with practitioners (beyond the academic faculty in the institutions in which they are trained) before they attain the professional degree. Practitioners, as well as faculty, can thus be quite influential on students' development and can offer models which differ in some respects from those offered by faculty. Coombs (1978) suggests that most students assign higher prestige to practitioners than to professors and take them as important models in professional development. Bucher and Stelling (1977) also suggest that practitioners become important reference points for students and residents, although the trainees are quite selective in their attentions to certain attributes of particular models. Studies of medical residents also have documented the impact of practitioners, other than medical school faculty, on trainees' professional orientations (see, e.g., Bosk, 1979; Light, 1980; Mumford, 1970).

Studies of adult socialization suggest that beyond early childhood persons become increasingly pro-active in selection of and attention to potential role models (see, e.g., Brim, 1966; Bush and Simmons, 1981). It also is possible that idealized qualities of professionals

might be more important than actual qualities in influencing socialization of adults. Furthermore, as Rosow (1974) and Singer (1981) have noted, one's professional socialization can be affected both by what one sees as typical attributes of a model or reference group and what one sees as desirable or idealized attributes. Bucher and Stelling (1977) argue that although students are influenced by what they term charismatic role models who inspire widespread respect, many also realize they can only approximate the qualities of these esteemed models. Most also are influenced by a host of other role models within their profession from which they model selectively a series of attributes or behaviors.

A substantial body of research has explored students' orientations toward physicians' roles as these emerge during medical school (For recent reviews, see Broadhead, 1983; Bucher and Stelling, 1978; Leserman, 1981). Far less research, however, has probed students' images of actual and idealized qualities of practicing physicians, despite a recognition of the potential importance of such conceptions. Furthermore, little recent research has probed whether students' conceptions of real and ideal physicians' qualities remains stable or changes over time. Finally, with the exception of work by Leserman (1981), little research has attempted to explore whether men and women hold similar or dissimilar images of actual and idealized qualities of practicing physicians.

Goals of This Paper

This study explores the issues noted above through analysis of longitudinal questionnaire data collected from students in three successive cohorts of a small, combined BA-MD program at a large Midwestern university. Specifically, it addresses the following questions:

1. What are students' conceptions of the actual qualities of practicing

physicians, and what are the patterns of stability or change in these conceptions over time?

2. What are students' images of the idealized qualities of practicing physicians, and what are the patterns of stability and change in these images over time?

3. Are there systematic differences between men and women in images of actual or idealized qualities of practicing physicians at any or all time points during medical school.

The third question derives from previous work of our own (see Genero et al., 1983; Grant and DuRoss, 1984) involving the same group of students which suggest systematic differences in students' own value orientations. Specifically, men and women begin and end their training with women placing somewhat greater emphasis on humanitarian and caring values and men placing somewhat greater emphasis on leadership, authority, and monetary rewards. These findings are for the most part consistent with research on other medical students (see, e.g., Burkett and Kunz, 1981; Cartwright, 1972; Funkenstein et al., 1974; Kosa and Coker, 1971; Kutner and Brogan, 1980; Leserman, 1981; Bourne and Wikler, 1978; Roessler et al., 1975). It is useful to note that our work and those of other authors report more commonalities than differences in orientations, and longitudinal analyses (see, in particular, Leserman, 1981) find more convergence than divergence in men's and women's orientations.

One possible source of systematic gender differences in orientations (to the extent that they are observable) is systematic variation by gender in students' perceptions of actual or desirable qualities in practicing physicians. Question three is designed to probe whether male and females see practicing physicians as exhibiting similar or different actual and idealized qualities.

Data Sources and Methods

Subjects for the study were women and men graduating in three successive classes (1979-81) from a small accelerated premedical-medical program in a large Midwestern university. Students entered the program directly from high school and received their B.A. and M.D. degrees in six years. One hundred thirty-one students (77 men and 54 women) received degrees i these years.

Self-administered questionnaires, a part of an ongoing program evaluation project, were completed by students at three time periods: the end of year two, as students completed their liberal arts course work; at the end of year four, as students completed their biomedical science course work; and at the end of year six, as students completed clinical rotations and prepared to begin residencies. Response rates ranged from a low of 118 students (72 men and 46 women) at time year 2 (Time 1) to 126 (76 men, 50 women) at year 4 (Time 2) to a high of 129 (76 men, 53 women) at year 6 (Time 3). These represented from 90 to 98 percent of eligible respondents at each time period. Because some students were not included at all three time periods, and some included at all periods did not respond to all items used in the analysis, complete data were available for only 99 subjects (60 men, 39 women). Women students were slightly underrerpesented among complete data cases (40 percent) relative to their proportions among graduates (42 percent). There appeared to be no other systematic biases among those who responded fully at all time periods and those for whom there were missing data at one or more time periods.

Measure of Images of 'Actual Physicians'

Students' images of qualities of actual physicians were measured by scaling their responses to a series of items appearing midway through

the questionnaire. Students were asked: "To what extent do you think the following characteristics describe most physicians in this country?" The questions were followed by a list of attributes, for example, "Available to patients," Wealthy, affluent," Active in community affairs," "Sensitive, emphathetic," or "Concerned with financial gain." For each item, students were asked to respond on a five-point Likert-type scale with possible ratings of 5 (Very Much), 4(Fairly Much), 3(Somewhat), 2(Very Little), 1(Not at all).

Responses to these items were subjected to maximum-linkage cluster analyses which produced three scales at each time period: The Images of Physicians as Caring, The Images of Physicians as Status-Conscious, and The Images of Physicians as Aware of Social Issues scales. Items comprising each scale are shown in Scales 1-3, with alpha (reliability) coefficients for each time period also displayed. The scales exhibited moderate to high reliability at all time periods, with coefficients ranging from .68 to .87 with most above .80. The full range of responses available at each time period was used in scale construction.

Measures of Images of 'Idealized' Attributes

A similar strategy to the one previously described was used to measure students idealized images of physicians. Students were asked: "How important are each of the following qualities in the making of an effective physician?" Once more, respondents were presented with a list of attributes (for example, "Ability to relate to people," Scientific curiosity," "Good research abilities," Interest in patients as people." For each item they responded on a five-point Likert-type scale identical to the one used to measure images of actual qualities. Maximum-linkage cluster analyses of these items yielded two scales: Images of Effective Physicians as Caring and Images of Effective

Physicians as Scientists. Scales 4 and 5 show items comprising each of these measures and reliability coefficients for each time period. Notably, the coefficients for the Images of Effective Physicians as Caring scale are higher at all time periods than those for the Images of Effective Physicians as Scientists scale. A respondent's score on each scale for each time point was the grand mean of his/her responses to all items comprising the scale.

Data Analysis

Students' images of actual and idealized qualities of physicians across the three time periods were analyzed through profile analyses (see Morrison, 1967). The technique, which is similar to MANCOVA, performs statistical tests on linear contrasts of multivariate means.

In using profile analysis, one first tests for parallelism. Profiles are parallel if there are no significant time-gender interactions which would indicate that men's and women's scores on a scale change in noncomparable ways at one or more time periods. In this first test the null hypothesis is that the profiles lack parallelism. Failing to reject the null hypothesis constitutes a conclusion that the profiles are parallel. If such a conclusion is reached, which was the case for all five profile analyses reported in this paper, one then can test for significant gender differences and significant time differences in students' scores on each scale. (See Morrison, p. 142 for a more complete discussion of these procedures.) Only those students for whom complete data on all relevant variables were available at all time points were included in the profile analyses.

RESULTS

Images of Actual Physicians

Figure 1 shows profiles of mean scores of men and women students at three time points on the "Images of Physicians as Caring Scale." Mean scores at all time periods show that most students see physicians as caring, with mean responses at all points falling close to the "Fairly Much" point of the five-point scale. The plots of means for both genders show male and female students evaluate physicians slightly lower on this orientation toward graduation than they did when they entered the program. However, these changes do not reach statistical significance and may be simply the result of sampling error. There also are no significant gender differences in students' images of the caring orientations of most physicians.

Figure 2 displays profiles of mean scores of women and men on the "Images of Physicians as Status Conscious" scale. Mean scores on this scale at each time period are fractionally higher than those on the "Images of Physicians as Caring" scale. This analysis shows a significant change in students' images of physicians' orientations over time, however. Students initially see doctors as quite status conscious (close to the Fairly Much point on the Likert scale). Perceptions of status consciousness orientations among physicians declines at Time 2, the point when students are completing their biomedical science course work and preparing to begin clinical rotations. However, there is an increase in perceptions of doctors as status conscious as students approach graduation, although the scores at this period are not as high as were those at Time 1. There are no significant gender differences in scores on this scale, as indicated by the F-ratio for the test for gender

differences and the nearly identical plots for males and females shown in Figure 2.

Students' scores on the "Images of Physicians as Aware of Social Issues" scale are shown in Figure 3. At all time periods scores on this scale are lower than scores for the two previously-discussed scales. Students do not see physicians as strongly concerned with social issues, with means for both genders at all times falling near the "Somewhat" point of the five-point scale. Variations in students' perceptions over time approach significance ($F=2.92$, $df=2,92$, $p=.059$). The pattern of change, as revealed by plots of means in Figure 3, are similar to that for the "Images of Physicians as Status Conscious" scale. Students' images of physicians' social issue concern levels are higher at Time 1, drop at Time 2, and rise once more at Time 3. The Time 3 scores, however, are not as high as those which appear at Time 1, when students have just completed their liberal arts courses and are beginning their biomedical science classes.

Images of Idealized Qualities of Physicians

Figure 4 shows mean responses of women and men at each time period on the "Images of Effective Physicians as Caring" scale. Notably, the scale tapping conceptions of 'effective' physicians show higher scores on the caring dimension than does the similar scale tapping conceptions of attributes of "most" physicians. Here men and women students respond between the "Fairly Much" and "Very Much" points on the scale, in contrast to responses ranging between the "Somewhat" and "Fairly Much" points when the reference point is "most physicians." (Compare Figure 1 and Figure 4.) Figure 4 shows, however, that students' conceptions of effective physicians as caring declines slightly over

time. Although the caring orientation remains highly valued at Time 3, both men and women have come to see effective physicians as somewhat less caring than they did at Time 1. These time differences are statistically significance and parallel the pattern of change observed in Figure 1 for students' perceptions of the caring orientations of "most" physicians. Gender differences also are significant for this scale, with females at all time periods seeing "effective physicians" as more caring than do their male classmates.

Figure 5 displays respondents' mean scores at three time periods on the "Images of Effective Physicians as Scientists" scale. At each time point men's and women's responses fall between the "Somewhat" and "Fairly Much" points on the scale, slightly closer to the former point. Scientific orientations thus are seen as less central for "effective physicians" by most students than are caring orientations. Figure 5 also reveals significant time differences in students' perceptions of scientific skills of "effective physicians." Such perceived orientations are relatively high at Time 1, rather low at Time 2 (ironically, at the point when the students are completing their biomedical science courses), and higher again at Time 3. At all time periods women appear to see scientific skills and interests as somewhat less central for "effective physicians" than do their male classmates, but the gender differences do not reach statistical significance.

DISCUSSION

The data suggest that students' images of qualities of "most" and "effective" physicians are transformed over time. With the exception of the perceptions of most physicians' orientations related to caring, students' images of qualities of most physicians do shift somewhat in the course of their medical training. Students

seemingly engage in active interpretation and refinement of the images they hold of actual and idealized attributes of practicing physicians. Inquiries into the impact of practicing physicians as role models on students' professional development seemingly must take account of these variable and mediating interpretations of what the qualities of the potential models are. Although recent conceptualizations of the professional socialization process have viewed students as active participants in selecting, rejecting, and partially attending to available models (see, e.g., Bucher and Stelling, 1977; Shuval, 1980), few have attended to shifts in students' perceptions of the potential models. This study suggests that such shifts occur both in perceptions of perceptions of qualities of actual and of "effective" physicians.

Gender differences in students' perceptions appear for only one item: the Images of Effective Physicians as Caring variable, where women scored higher at all time points than did men. This pattern is consistent with findings of our previous work with students from this program, which show caring orientations to be one of the few dimensions on which women and men can be distinguished in terms of personal orientations (see Genero et al., 1983; Grant and DuRoss). Women respond at higher levels on self-report measures of caring than do men. It might be that women have different conceptualizations of the importance of caring at the idealized level. However, women are no different from men in their perceptions of the caring qualities of "most" physicians. The lack of gender differences in students' perceptions on all other items gives little support for the contention that women and men perceive, or are attentive, to differing qualities of practicing physicians. The few differences in personal value orientations which appear between men and women presumably emanate

mostly from other sources. It is possible, however, that women and men use practicing physicians in varying ways, and this group is more central to the socialization of one gender group as opposed to the other. Unfortunately, we did not have appropriate data to address this question for these students.

Because of limitations in the data, we also were unable to explore the dynamics which might account for changes in over time in students' images of practicing physicians. Several possible explanations have been suggested in the research literature, however. One possibility is that students had exposure to different practicing physicians at various points in their medical education. Singer (1981) notes that one important function of reference groups or persons is to serve as sources of normative behaviors, attitudes, and values for trainees (see also Coombs, 1978; Shuval, 1980). Medical students typically see more practicing physicians during clinical rotations than during earlier parts of their education. Furthermore, contacts which occur during clinical rotations are more apt to be in small groups, or one-on-one situations which are particularly conducive to normative socialization (Brim, 1966). Thus, students at different points in training might have been referencing their images to different groups of physicians. Changes in reference groups or persons thus might account for changes in perceptions of qualities of actual and effective physicians.

Secondly, Coombs (1978) and others have suggested that most students enter medical school with only a vague understanding of the role requirements needed to perform effectively as a physician. Many have an idealized, but naive, conceptualization of what most physicians, and what especially effective, physicians are like. As a result of increasing experience, students continually redefine their conceptualizations of the typical

and the particularly effective physician. For example, students might come to realize that while caring behaviors and orientations are valuable in many situations, too stong a caring orientation can interfere with effective performance. A physician overcome with emotion for a dying patient or a child in pain, for example, might not be able to deliver the highest quality care. Or students come to realize that physicians, like other people, face limits of endurance. It becomes necessary to focus one's activity (e.g., on patient care) and leave some other aspects of effective medical care (e.g., basic science research) to others. Thus, students not only alter their conceptions of what qualities an effective physician should possess, but also alter their judgments about the effectiveness of the physicians they encounter in their day-to-day educational activities.

Finally, students also use both actual and idealized members of the group to which they aspire as bases for comparison as well as bases for guidance about norms (Singer, 1981). The comparison process often is quite complex. As students encounter different groups of potential models, they sometimes alter perceptions of their own competence and/or orientations in comparison to the new models. This is not the only possible outcome, however. Students can also distort perceptions of the reference groups or models, bringing them more in line with their own preferred patterns. Or, similarly, students can choose to reference their orientations to different groups or persons as they themselves experience changes in their personal orientations. This argument presumes that the change in students' orientations comes first, and the change in perceptions of values of reference groups, or perhaps even a change in the groups to which orientations and behaviors are referenced, occurs later.

The findings of this study suggest several directions for future research. First, it is important to determine how central perceptions of qualities of actual and idealized practitioners are for medical students' professional development, relative to other potential models and reference groups such as faculty, peers, residents, other hospital staff, historical or media models, and the like. Research on these issues should be modeled and implemented in a manner that allows for change in conceptions of the potential models over time.

Second, research might usefully probe the complex and dynamic relationships between perceived qualities of models and students' responses to them. Bucher and Stelling (1977) argue that medical faculty are less influential role models than many have considered them to be, and students are highly selective in how they use these models. Some may have only limited influence, and others may even serve as negative models, with students desiring to become the reverse of the qualities observed in the model. These authors suggest that the norm of professional autonomy, which is stressed heavily throughout professional training, decreases students' attentiveness to the potential influence of models and reference groups the longer they have been in training. Coombs (1978) has suggested, however, that practicing physicians are held in greater esteem by students than medical faculty, especially as the students near completion of their training. Practicing physicians thus might have a greater impact on students, making perceptions students hold about their attributes important to the understanding of professional development.

The interplay between perceived orientations of actual practitioners and the perceived attributes of effective or particularly esteemed

professionals remains poorly understood for medical students as well as for students in other types of professional training programs. Bucher and Stelling (1977) suggest that idealized images are usually less powerful than perceptions of qualities of typical practitioners, since most students do not expect to perform as effectively as these idealized members of the professions. Other authors (for example, Broadhead, 1983, Becker and Geer, 1961) suggest that idealized images might be quite important in guiding students' professional development. This issue also is worthy of sustained research attention.

REFERENCES

Becker, H., B. Geer, E. Hughes, and A. Strauss

1961 Boys in White: Student Culture in Medical School. Univ. of Chicago Press

Blau, P., J. Cullen, R. Margulies, and H. Silver

1979 "Dissecting types of professional schools." Sociology of Education 52:7-19.

Bosk, C.

1979 Forgive and Remember: Managing Medical Failure. Chicago: University of Chicago Press.

Bourne, P., and N. Wikler

1978 "Commitment and cultural mandate: women in medicine." Social Problems 25:442-53.

Brim, O.

1966 "Socialization through the life cycle." Pp. 7-50 in O. Brim and S. Wheeler (eds.) Socialization After Childhood. New York: Wiley

Broadhead, R.

1983 The Private Lives and Professional Identity of Medical Students. New Brunswick, N.J.: Transaction Books.

Bucher, R. and J. Stelling

1977 Becoming Professional. Beverly Hills, Calif.: Sage.

Burkett, G. and D. Kunz

1981 "A comparison of the professional values and career orientations of male and female medical students: some unintended consequences of U.S. public policy." Health Policy and Education 2:33-45.

Bush, D., and R. Simmons

1981 "Socialization processes over the life course." Pp. 133-64 in M. Rosenberg and R. Turner (eds.) Social Psychology: Sociological Perspectives. New York: Basic Books

Cartwright, L.

1972 "Conscious factors entering the decision of women to study medicine." Journal of Social Issues 28:201-15.

Coombs, R.

1978 Mastering Medicine: Professional Socialization in Medical School. New York: The Free Press.

Funkenstein, D.

1978 Medical Students, Medical Schools and Society during Given Eras: Factors Affecting the Career Choices of Physicians, 1958-1976. Cambridge, Mass.: Ballinger.

Genero, N., P. Nurius, L. Grant, and C. Wortman

1983 "Value development in medical students: variations by gender and time." Paper presented at the annual meeting of the American Sociological Association, Detroit, August.

Grant, L., and D. DuRoss

1984 "Expected rewards of practice and personal-life priorities of men and women medical students." Sociological Focus (April).

Kosa, J., and R. Coker

1971 "The female physician in public health: conflict and the resolution of sex and professional roles. In A. Theodore (ed.) Professional Women. Cambridge, Mass.: Schonkman.

Kutner, N., and D. Brogan

1980 "The decision to enter medicine: motivations, social support, and discouragements for women." Psychology of Women Quarterly 5:341-58.

Laserman, J.

1981 Men and Women in Medical School: How They Change and How They Compare. New York: Praeger.

Light, D.

1980 Becoming Psychiatrists: The Professional Transformation of Self. New York: W.W. Norton.

Morrison, D.

1967 Multivariate Statistical Methods. New York: McGraw-Hill.

Mortimer, J. and R. Simmons

1978 "Adult socialization." Annual Review of Sociology 4:421-54.

Mumford, E.

1970 Intern: From Student to Physician. Cambridge, Mass.: Harvard University Press.

Roessler, E., F. Collins, and R. Mefferd, Jr.

1975 "Sex similarities in successful medical school applicants." Journal of the American Medical Women's Association 30:254-65.

Rosow, I.

1974 Socialization to Old Age. Berkeley, Calif.: University of California Press.

Shuval, J.

1980 Entering Medicine: The Dynamics of Transition. New York: Pergamon.

Singer, E.

1981 "Reference groups and social evaluations." Pp. 66-93 in M. Rosenberg and R. Turner (eds.) Social Psychology: Sociological Perspectives. New York: Basic Books.

Scale 1

Items Comprising the "Images of Physicians as Caring' Scale

"To what extent do you think the following characteristics describe most physicians in this country?"[1]

Interested in patients

Sensitive, empathetic

Concerned about the welfare of others

Available to patients

Desires to help others

	Time 1	Time 2	Time 3
Alphas	.82	.85	.87

[1]Response categories ranged from 5 ("very much") to 1 ("not at all").

Scale 2

Items comprising the "Images of Physicians as Status-Conscious" Scale

"To what extent do you think the following characteristics describe most physicians in this country?"[1]

Wealthy, affluent

Concerned with financial gain

Status conscious

High in social status

	Time 1	Time 2	Time 3
Alpha Levels	.80	.81	.83

[1]Response categories ranged from 5 ("very much") to 1 ("not at all").

Scale 3

Items comprising the "Images of Physicians as Aware of Social Issues" Scale

"To what extent do you think the following characteristics describe most physicians in this country."

Sensitive to the needs of the community

A leader in his/her community

Active in community affairs

	Time 1	Time 2	Time 3
Alpha Levels	.72	.76	.68

[1]Response categories ranged from 5 ("very much") to 1 ("not at all").

Items comprising the "Images of Effective Physicians as Caring" Scale[1]

"How important are each of the following qualities in making an effective physician?"

A warm and pleasant personality

Ability to relate to people

Interest in patients as people

Sensitivity/empathy

	Time 1	Time 2	Time 3
Alpha Levels	.81	.78	.86

[1]Response categories ranged from 5 ("very much") to 1 ("not at all").

Scale 5

Items comprising the "Images of Effective Physicians as Scientists" Scale

"How important are each of the following qualities in making an effective physician?"[1]

Scientific curiosity

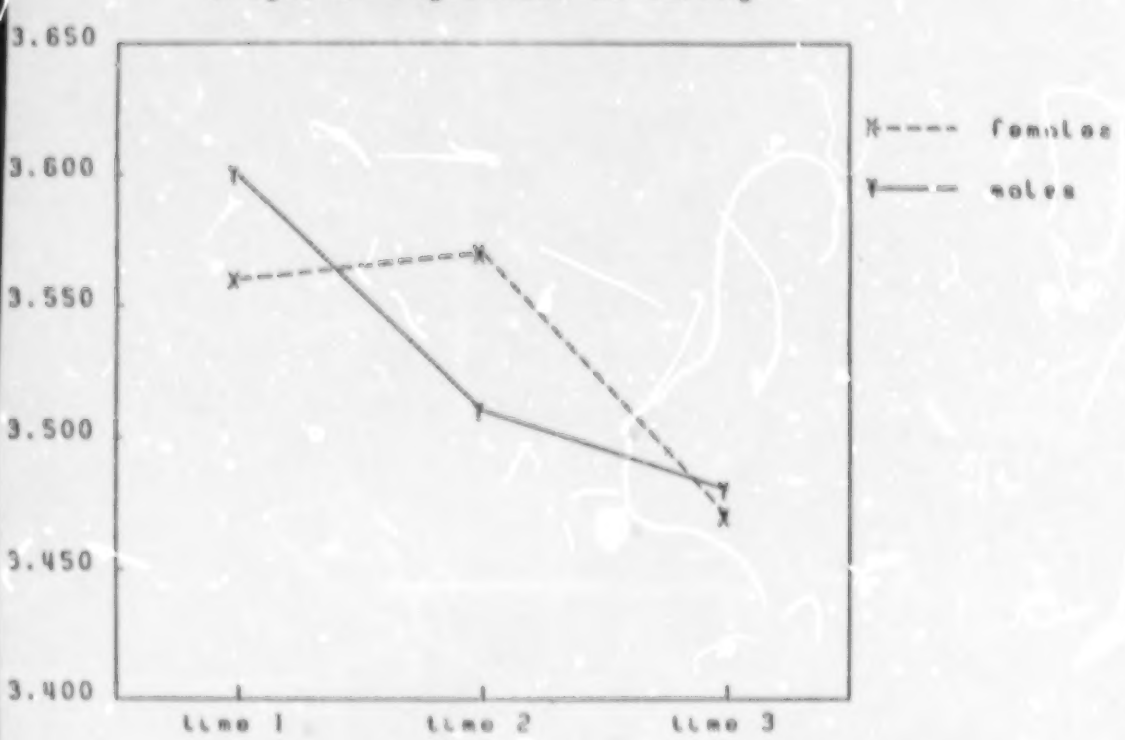
High intellectual ability

Good research abilities

	Time 1	Time 2	Time 3
Alpha Levels	.53	.61	.69

[1]Response categories ranged from 5 ("very much") to 1 ("not at all").

FIGURE 1
Mean Scores* on "Images of Physicians as Caring"
Scale of Men and Women Students at Three Time Periods in Medical School



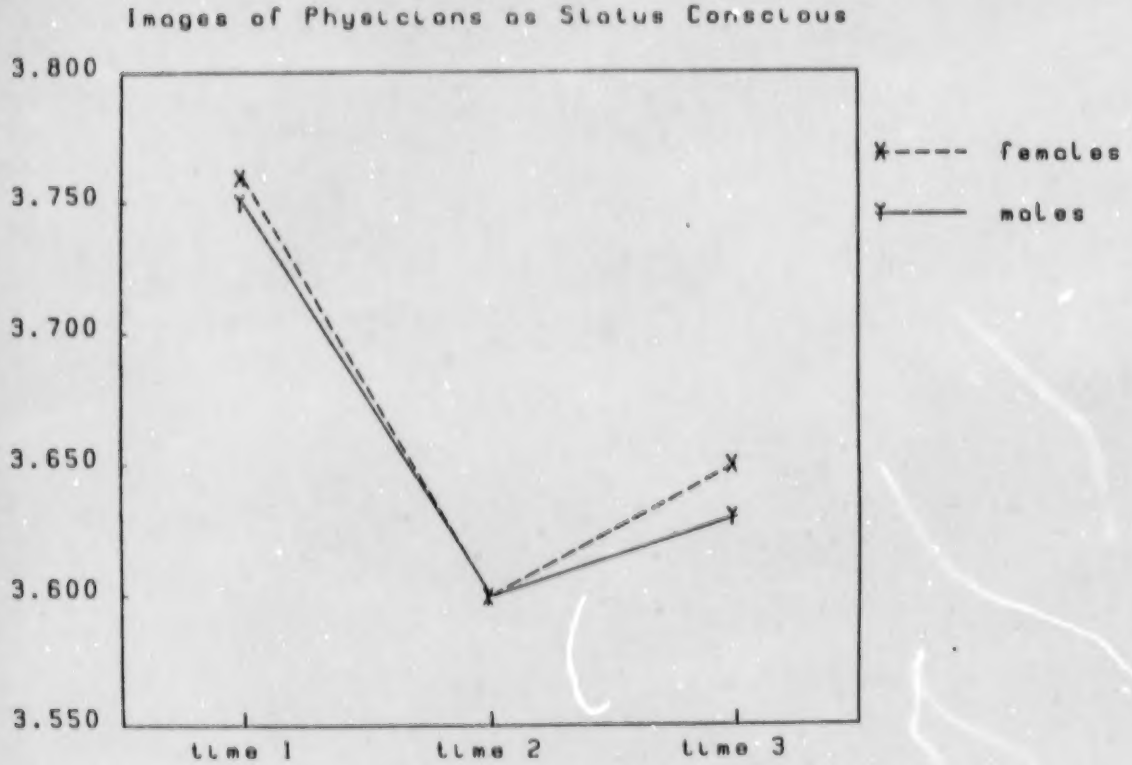
*Calculated as the grand mean of items comprising the scale, coded from 1 = Low to 5 = High

N=96;59 males, 37 females

	F	P
Test for parallelism	$.279_{(2,93)}$	.752
Test for no differences over time	$1.146_{(2,93)}$	.322
Test for no gender differences	$.007_{(1,94)}$	.931

FIGURE 2

Mean Scores* on "Images of Physicians as Status-Conscious" Scale of Men and Women Students at Three Time Periods in Medical School



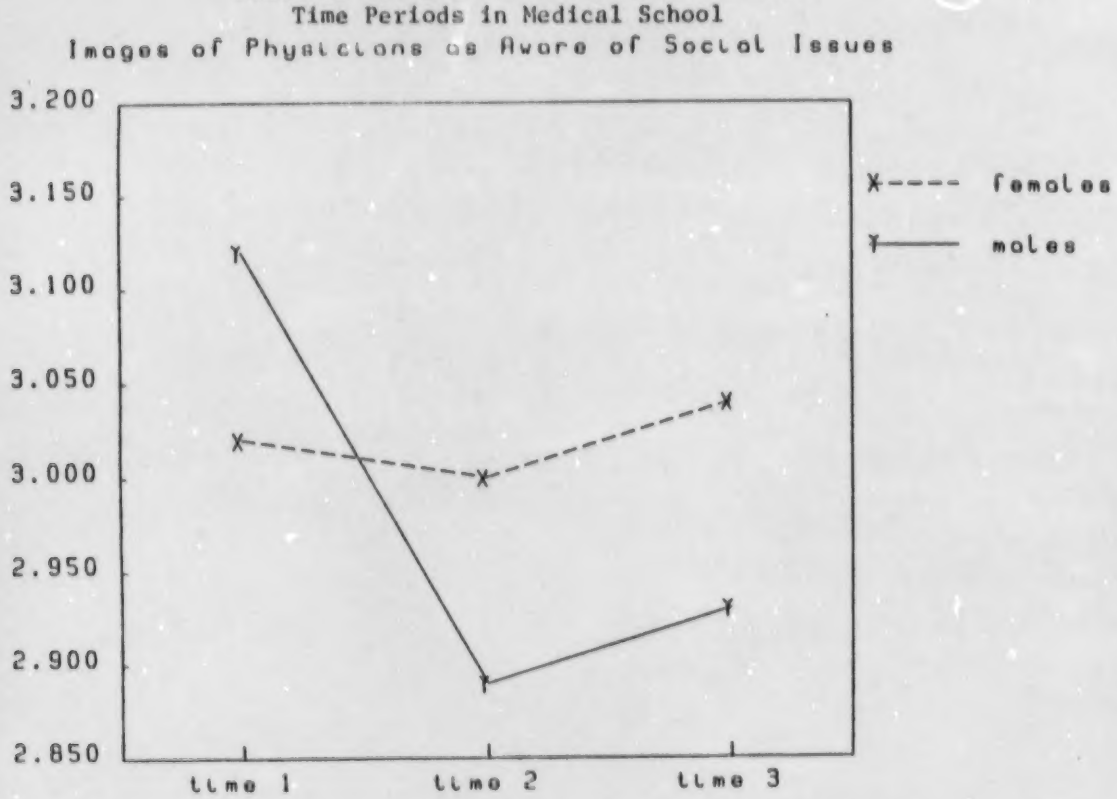
*Calculated as the grand mean of all items comprising the scale, coded 1 = Low to 5 = High

N=95;59 males, 36 females

	F	P
Test for parallelism	$.037_{(2,92)}$	.964
Test for no differences over time	$3.610_{(2,92)}$	.031
Test for no gender differences	$.001_{(1,93)}$	.9717

FIGURE 3
Mean Scores* on "Images of Physicians as Aware of Social Issues"

Scale of Men and Women Students at Three
Time Periods in Medical School



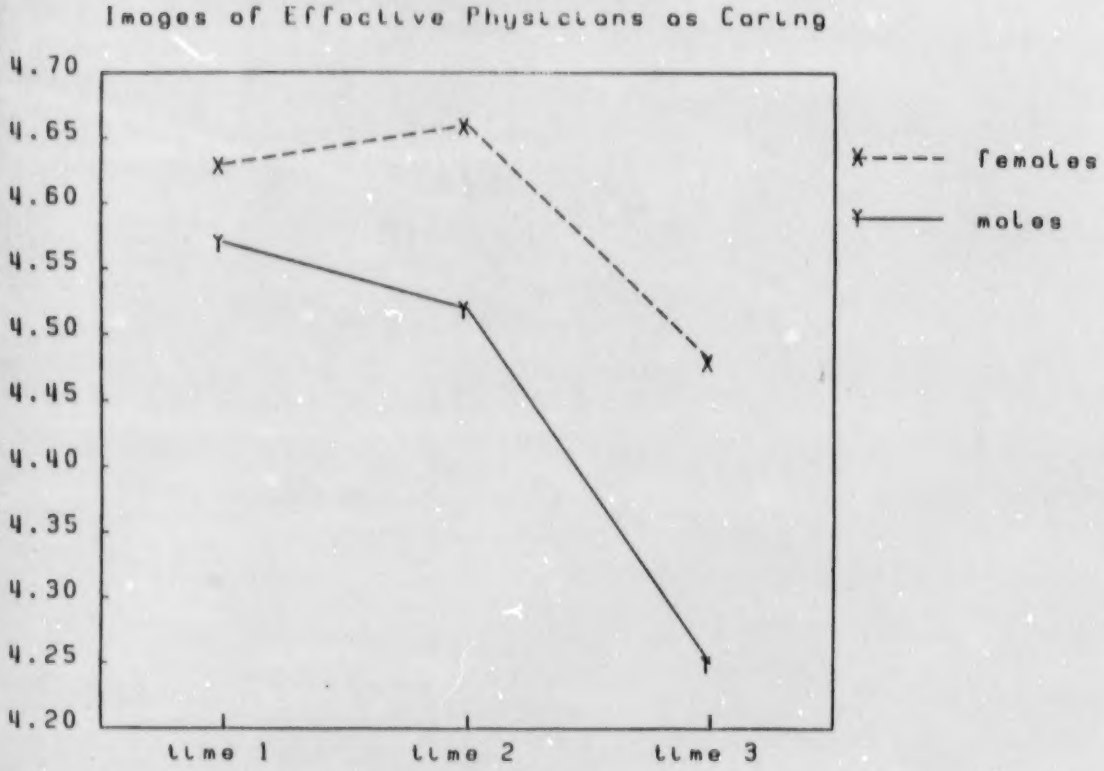
*Calculated as the grand mean of all items comprising the scale, coded 1 = Low to 5 = High

N=95; 59 men, 36 women

	F	P
Test for parallelism	$1.82_{(2,92)}$	.168
Test for no differences over time	$2.92_{(2,92)}$	.059
Test for no gender differences	$.181_{(1,93)}$	.671

FIGURE 4
Mean Scores* on "Images of Effective Physicians as Caring"

Scale of Men and Women Students at
Three Time Periods in Medical School



*Calculated as the grand mean of all items comprising the scale, coded 1 = Low to 5 = High

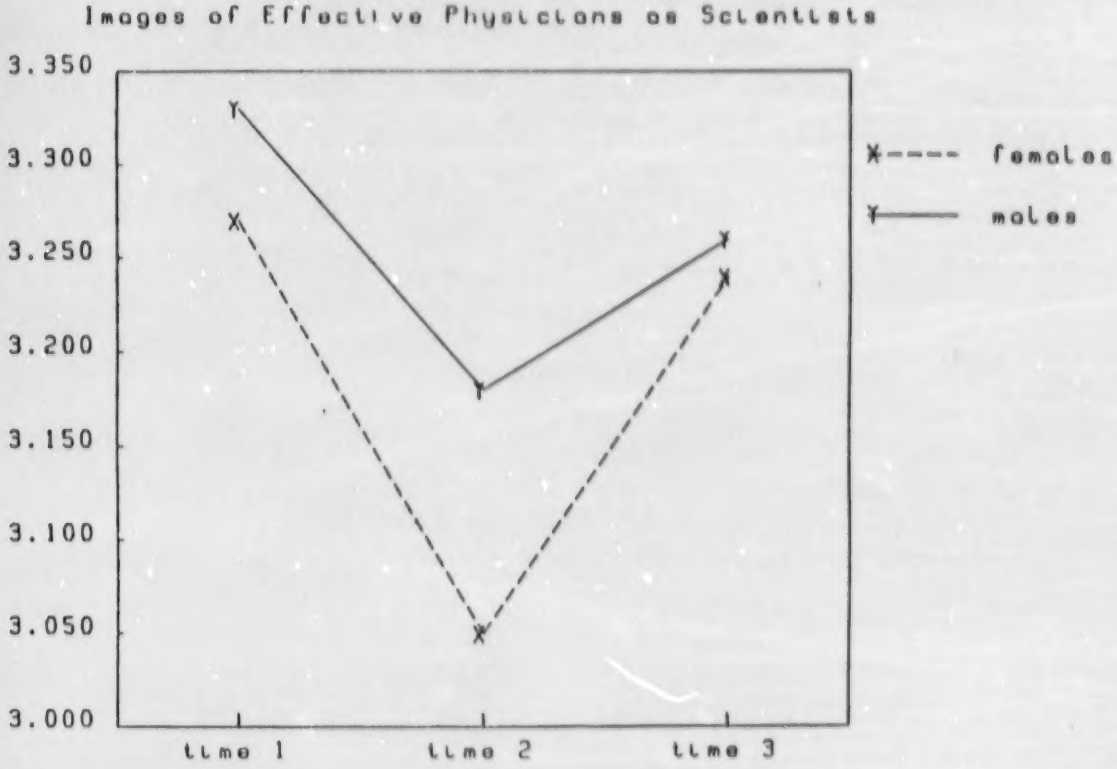
N=99;60 males, 39 females

	F	P
Test for parallelism	$.456_{(2,96)}$	.634
Test for no differences over time	$10.517_{(2,96)}$	.0001
Test for no gender differences	$1.128_{(1,97)}$	.045

FIGURE 5

Mean Scores* on "Image of Effective Physicians as Scientists"

Scale of Men and Women Students at
Three Time Periods in Medical School



*Calculated as grand mean of all items comprising the scale, coded 1 = Low to 5 = High

N=99;60 males, 39 females

	F	P
Test for parallelism	$.344_{(2,96)}$	.710
Test for no differences over time	$5.363_{(2,96)}$	.006
Test for no gender differences	$.615_{(1,97)}$	.435